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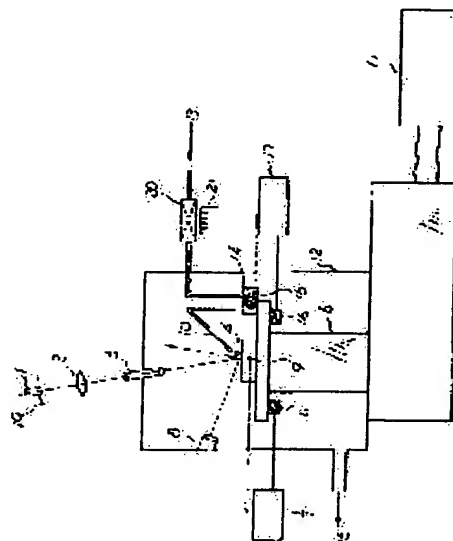
(21)Application number : 62-145764 (71)Applicant : OSAKA OXYGEN IND LTD
NISHIZAWA JUNICHI
(22)Date of filing : 11.06.1987 (72)Inventor : TAGAWA TAICHI
KIJIMA TAKAHIKO
NISHIZAWA JUNICHI

(54) METHOD AND DEVICE FOR MEASURING TRACE MOISTURE QUANTITY IN GAS

(57)Abstract:

PURPOSE: To contrive to execute a measurement at $\leq -80^{\circ}$ with high accuracy by radiating a condensed light beam, etc. to a part to which gas to be measured has been blown, on the specular surface, in an optical dew-point instrument, and measuring a sudden increase of scattered light generated at the time its reflection.

CONSTITUTION: A light beam from a light source 1 is condensed by a parabolic mirror 19 and a convex lens 2, condensed onto a specular surface 4 through an incident window 3, a helium refrigerator 5 is allowed to come into contact with the specular surface 4, and also, a specular surface temperature is controlled by a heater 6 and a temperature controller 7. Also, this device is constituted so that the light beam which is reflected by the specular surface 4 is measured by a photodetecting element 8 installed on an optical path being different from a reflected light path. Subsequently, gas to be measured is led in from an inlet 13, cooled to a little higher temperature than that of the specular surface 4 by a precooler 14, and thereafter, blown from a nozzle 10, cools gradually the specular surface 4, and coagulates water in the gas, and an increase of scattered light is measured, and also, a temperature of the specular surface 4 is measured by a thermocouple 9.



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